

IN THE CLAIMS

1. (Original) A converter comprising:
 - a transformer circuit including an input port and an autotransformer coupled to the input port, the input port to receive an input signal;
 - a filter coupled to the transformer circuit, the filter to generate an output signal at an output port; and
 - a controller coupled to the transformer circuit and the filter, the controller to receive the output signal from the filter and to provide one or more control signals to the transformer circuit to control the output signal.
2. (Original) The converter of claim 1, wherein the autotransformer comprises three coils.
3. (Original) The converter of claim 2, wherein a diode is connected between one of the three coils and a port other than the input port.
4. (Original) The converter of claim 3, wherein the filter includes an inductor coupled directly to the autotransformer.
5. (Original) The converter of claim 4, wherein the filter comprises a low-pass filter.
6. (Original) The converter of claim 4, wherein the controller comprises a synchronous buck controller.
7. (Original) The converter of claim 1, wherein the autotransformer comprises two coils.

8. (Original) The converter of claim 7, wherein the input port is connected in series with a switch and the autotransformer, and a diode is connected in parallel with the switch and the autotransformer.

9. (Original) The converter of claim 8, wherein the switch comprises an insulated gate metal-oxide semiconductor field-effect transistor.

10. (Original) The converter of claim 9, wherein the controller comprises a synchronous buck controller.

11. (Original) The converter of claim 1, wherein the input signal has an input signal value and the output signal has an output signal value and the output signal value is less than the input signal value.

12. (Original) The converter of claim 11, wherein the input signal value is about forty-eight volts and the output signal value is about six-tenths of a volt.

13. (Original) The converter of claim 1, wherein the converter further comprises a second converter coupled to the output signal.

14. (Original) The converter of claim 13, where the second converter is operated 180 degrees out of phase from the converter.

15. (Original) A method comprising:

receiving a first input signal at a transformer circuit including a first coil and a second coil;

activating a first switch to serially connect the first coil to the second coil;

activating a second switch to connect the second coil to a second input signal;

deactivating the first switch and the second switch; and

activating a third switch to connect the filter input signal to the second input signal.

16. (Original) The method of claim 15, wherein receiving the first input signal at the transformer circuit including a first coil and a second coil comprises receiving a substantially direct current voltage signal from a power source.

17. (Original) The method of claim 15, wherein activating the first switch to serially connect the first coil to the second coil comprises activating the first switch from a first control signal provided by a controller.

18. (Original) The method of claim 17, wherein activating the second switch to connect the second coil to the second signal comprises activating the second switch from the first control signal.

19. (Original) The method of claim 15, wherein deactivating the first switch and the second switch comprises deactivating the first switch before deactivating the second switch.

20. (Original) The method of claim 19, wherein activating the third switch to connect the third switch to the second control signal comprises activating the third switch after deactivating the first switch and the second switch.

21. (Original) The method of claim 15, further comprising connecting the filter input signal to a filter having an output signal and connecting a converter to the output signal.

22. - 28. (Canceled)